**[0027]** FIG. **18** shows a seventeenth embodiment of a HV ESD protection circuit comprising a first compensation region split into two regions.

**[0028]** FIG. **19** shows an eighteenth embodiment of a HV ESD protection circuit comprising a second compensation region split into two regions.

**[0029]** FIG. **20** shows a nineteenth embodiment of a HV ESD protection circuit comprising a first implementation of a deep well/buried layer structure.

**[0030]** FIG. **21** shows a twentieth embodiment of a HV ESD protection circuit comprising a second implementation of a deep well/buried layer structure.

**[0031]** FIG. **22** shows a twenty-first embodiment of a HV ESD protection circuit comprising an isolating region separating a well from a deep well/buried layer structure.

**[0032]** FIG. **23** shows a twenty-second embodiment of a HV ESD protection circuit comprising control circuits to influence the operation of compensation regions.

**[0033]** FIG. **24** shows a twenty-third embodiment of a HV ESD protection circuit comprising external circuitry to influence well regions.

**[0034]** FIG. **25** shows a twenty-fourth embodiment of a HV ESD protection circuit comprising external triggers.

**[0035]** FIG. **26** shows a twenty-fifth embodiment of a HV ESD protection circuit comprising a well region to influence a reverse breakdown voltage.

**[0036]** FIG. **27** shows a twenty-sixth embodiment of a HV ESD protection circuit comprising a gate region to tune a reverse breakdown voltage.

**[0037]** FIG. **28** shows a twenty-seventh embodiment of a HV ESD protection circuit comprising an additional SCR for compensation.

**[0038]** FIG. **29** shows a twenty-eighth embodiment of a HV ESD protection circuit comprising a first two-finger arrangement.

**[0039]** FIG. **30** shows a top view of the twenty-eighth embodiment of the HV ESD protection circuit shown in FIG. **29**.

**[0040]** FIG. **31** shows a twenty-ninth embodiment of a HV ESD protection circuit comprising a second two-finger arrangement.

**[0041]** FIG. **32** shows a top view of the twenty-ninth embodiment of the HV ESD protection circuit shown in FIG. **31**.

## DETAILED DESCRIPTION

**[0042]** The circuits described herein comprise wells of a conductivity type, wherein the conductivity type comprises N-type and P-type. When referred to hereinafter, a first conductivity type may be the opposite of a second conductivity type. For instance, if the first conductivity type is an N-type, the second conductivity type may be a P-type. Likewise, if the first conductivity type is a P-type, the second conductivity type may be an N-type. In the following embodiments, a circuit may be implemented with conductivity types of either arrangement. The figures may depict bipolar transistors of a specific type, however the circuits depicted in the figures may be implemented with regions of opposite conductivity type resulting in transistors of the opposite type. In this case, a PNP bipolar transistor would become an NPN bipolar transistor, and an NPN bipolar transistor would become a PNP bipolar transistor.

**[0043]** In the following descriptions, common numerical designations may be used for similar, corresponding parts across multiple figures. In general, the part number will start with the figure number. For instance, anode region **101** as shown in FIG. **1** corresponds to similar anode region **501** shown in FIG. **5**. Likewise, bipolar **681** formed by regions **601**, **603**, and **610** shown in FIG. **6** corresponds to similar bipolar **2181** formed by regions **2101**, **2103**, and **2110** shown in FIG. **21**. In some instances for clarity of illustration or due to the orientation of the figure, bipolar transistors may not be explicitly depicted in the figures. However, it should be understood that a bipolar x**82** formed from regions x**02**, x**10**, and x**20** in Figure x may be similar to bipolar y**82** formed from regions y**02**, y**10**, and y**20** in Figure y.

**[0044]** One of ordinary skill in the art should recognize a region may be viewed as serving multiple functions. For instance, a well region may serve as an emitter of a first transistor and as an anode of a silicon controlled rectifier (SCR). As such, in the following descriptions, the same region may be referred to by different nomenclature depending on the context of the function it serves. As an example, one may encounter a description for an emitter **601** and later encounter a description for an anode **601** referring to the same region. The numerical designation will provide an unambiguous notation for the region under consideration while the preceding descriptor should aid the readability of the description in the context of the discussion.

**[0045]** FIG. **1** shows a first embodiment of a high voltage (HV) electrostatic protection (ESD) protection circuit **100**. The HV ESD protection circuit **100** comprises regions **101**, **104**, and **105**, which may be highly-doped of a first conductivity type. Regions **102**, **103**, and **106** may be highly-doped of a second conductivity type. Well region **110** may be of the first conductivity type and may have a lower doping level than regions **101**, **104**, and **105**. Well region **120** may be of the second conductivity type and may have a lower doping level than regions **102**, **103**, and **106**. Highly-doped regions **101** and **103** may be formed in well region **120**, and highly-doped regions **102**, **104**, **105**, and **106** may be formed in well region **110**. The highly-doped regions **101**, **102**, **103**, **104**, **105**, and **106** may be separated on the chip surface by field oxide, trench isolation, or equivalent material. A semiconductor chip may comprise other circuits in addition to the HV ESD protection circuit **100**.

**[0046]** Regions **101** (emitter), **110** (collector), and **120** (base) may form a first bipolar device **181**. Regions **102** (emitter), **110** (base), and **120** (collector) may form a second bipolar device **182** which may be the opposite type of the first bipolar device **181**. Bipolars **181** and **182** may be coupled to form an SCR device. Regions **101** and **102** may be respectively called the anode and cathode of the SCR device. The spacing between these two regions may be referred to as the anode-cathode spacing (LAC). Regions **105** and **106** may be formed within the LAC. Regions **105** and **106** may be coupled by connection **191**. Connection **191** may be a metal contact, via, metal line, resistor, capacitor, diode, metal oxide semiconductor (MOS) device, bipolar, control circuit, or any other electrical element or combination of elements forming a connection between regions **105** and **106**. Regions **102** (emitter), **106** (collector), and **110** (base) may form a bipolar **183**. Anode **101** may be coupled to region **103** through a resistive element **192**. Likewise, cathode **102** may be coupled to region **104** through a resistive element **193**. The well resistance of region **110** may create a resistive path that couples region **105** to region **104**.